SEQUENCE LISTING

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<110>  Hildinger, Markus

<120>  Decreasing gene expression in a mammalian subject in vivo via
       AAV-mediated RNAi expression cassette transfer

<130>  1339

<140>  US 10/604,340
<141>  2003-07-13

<160>  11

<170>  PatentIn version 3.1

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<212>  DNA
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<223>  sequence for recombinant adeno-associated viral vector, including
       plasmid backbone, with AAV2 internal terminal repeats that flank
       expression cassette; referred to as AAV2/2 CMV luciferase

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<223>  luciferase cDNA


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Ile Gln Ser Ala Leu Leu Val Pro Thr Leu Phe Ser Phe Phe Ala Lys
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expression cassette; referred to as AAV2/2 CMV luciferase

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Val Asp Ile Thr Tyr Ala Glu Tyr Phe Glu Met Ser Val Arg Leu Ala
        50   55   60

Glu Ala Met Lys Arg Tyr Gly Leu Asn Thr Asn His Arg Ile Val Val
65   70   75   80

Cys Ser Glu Asn Ser Leu Gln Phe Phe Met Pro Val Leu Gly Ala Leu
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Phe Ile Gly Val Ala Val Ala Pro Ala Asn Asp Ile Tyr Asn Glu Arg
                100   105   110

Glu Leu Leu Asn Ser Met Gly Ile Ser Gln Pro Thr Val Val Phe Val
        115   120   125

Ser Lys Lys Gly Leu Gln Lys Ile Leu Asn Val Gln Lys Lys Leu Pro
        130   135   140

Ile Ile Gln Lys Ile Ile Ile Met Asp Ser Lys Thr Asp Tyr Gln Gly
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Phe Gln Ser Met Tyr Thr Phe Val Thr Ser His Leu Pro Pro Gly Phe
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Pro Ile Phe Gly Asn Gln Ile Ile Pro Asp Thr Ala Ile Leu Ser Val
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Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly Tyr Leu
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Ile Cys Gly Phe Arg Val Val Leu Met Tyr Arg Phe Glu Glu Glu Leu
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Phe Leu Arg Ser Leu Gln Asp Tyr Lys Ile Gln Ser Ala Leu Leu Val
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Pro Thr Leu Phe Ser Phe Phe Ala Lys Ser Thr Leu Ile Asp Lys Tyr
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Asp Leu Ser Asn Leu His Glu Ile Ala Ser Gly Gly Ala Pro Leu Ser
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Lys Glu Val Gly Glu Ala Val Ala Lys Arg Phe His Leu Pro Gly Ile
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Arg Gln Gly Tyr Gly Leu Thr Glu Thr Ser Ala Ile Leu Ile Thr
        340                 345                 350

Pro Glu Gly Asp Asp Lys Pro Gly Ala Val Gly Lys Val Val Pro Phe
        355                 360                 365

Phe Glu Ala Lys Val Val Asp Leu Asp Thr Gly Lys Thr Leu Gly Val
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8

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Trp Leu His Ser Gly Asp Ile Ala Tyr Trp Asp Glu Asp Glu His Phe
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Phe Ile Val Asp Arg Leu Lys Ser Leu Ile Lys Tyr Lys Gly Tyr Gln
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Val Ala Pro Ala Glu Leu Glu Ser Ile Leu Leu Gln His Pro Asn Ile
    450   455   460

Phe Asp Ala Gly Val Ala Gly Leu Pro Asp Asp Asp Ala Gly Glu Leu
465   470   475   480

Pro Ala Ala Val Val Val Leu Glu His Gly Lys Thr Met Thr Glu Lys
                485   490   495

Glu Ile Val Asp Tyr Val Ala Ser Gln Val Thr Thr Ala Lys Lys Leu
                500   505   510

Arg Gly Gly Val Val Phe Val Asp Glu Val Pro Lys Gly Leu Thr Gly
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Gly Gly Lys Ile Ala Val
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Gly Pro Ala Pro Phe Tyr Pro Leu Glu Asp Gly Thr Ala Gly Glu Gln
10              15                  20                      25

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Leu His Lys Ala Met Lys Arg Tyr Ala Leu Val Pro Gly Thr Ile Ala
              30                  35                      40

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90              95              100             105

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cag cct acc gtg gtg ttc gtt tcc aaa aag ggg ttg caa aaa att ttg          1638
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aac gtg caa aaa aag ctc cca atc atc caa aaa att att atc atg gat          1686
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Ser Lys Thr Asp Tyr Gln Gly Phe Gln Ser Met Tyr Thr Phe Val Thr
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tct cat cta cct ccc ggt ttt aat gaa tac gat ttt gtg cca gag tcc          1782
Ser His Leu Pro Pro Gly Phe Asn Glu Tyr Asp Phe Val Pro Glu Ser
170             175             180             185

ttc gat agg gac aag aca att gca ctg atc atg aac tcc tct gga tct          1830
Phe Asp Arg Asp Lys Thr Ile Ala Leu Ile Met Asn Ser Ser Gly Ser
                190             195             200

act ggt ctg cct aaa ggt gtc gct ctg cct cat aga act gcc tgc gtg          1878
Thr Gly Leu Pro Lys Gly Val Ala Leu Pro His Arg Thr Ala Cys Val
                205             210             215

aga ttc tcg cat gcc aga gat cct att ttt ggc aat caa atc att ccg          1926
Arg Phe Ser His Ala Arg Asp Pro Ile Phe Gly Asn Gln Ile Ile Pro
        220             225             230

gat act gcg att tta agt gtt gtt cca ttc cat cac ggt ttt gga atg          1974
Asp Thr Ala Ile Leu Ser Val Val Pro Phe His His Gly Phe Gly Met
        235             240             245

ttt act aca ctc gga tat ttg ata tgt gga ttt cga gtc gtc tta atg          2022
Phe Thr Thr Leu Gly Tyr Leu Ile Cys Gly Phe Arg Val Val Leu Met
250             255             260             265

tat aga ttt gaa gaa gag ctg ttt ctg agg agc ctt cag gat tac aag          2070
Tyr Arg Phe Glu Glu Glu Leu Phe Leu Arg Ser Leu Gln Asp Tyr Lys
                270             275             280
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11

att caa agt gcg ctg ctg gtg cca acc cta ttc tcc ttc ttc gcc aaa   2118
Ile Gln Ser Ala Leu Leu Val Pro Thr Leu Phe Ser Phe Phe Ala Lys
            285   290   295

agc act ctg att gac aaa tac gat tta tct aat tta cac gaa att gct   2166
Ser Thr Leu Ile Asp Lys Tyr Asp Leu Ser Asn Leu His Glu Ile Ala
            300   305   310

tct ggt ggc gct ccc ctc tct aag gaa gtc ggg gaa gcg gtt gcc aag   2214
Ser Gly Gly Ala Pro Leu Ser Lys Glu Val Gly Glu Ala Val Ala Lys
            315   320   325

agg ttc cat ctg cca ggt atc agg caa gga tat ggg ctc act gag act   2262
Arg Phe His Leu Pro Gly Ile Arg Gln Gly Tyr Gly Leu Thr Glu Thr
330   335   340   345

aca tca gct att ctg att aca ccc gag ggg gat gat aaa ccg ggc gcg   2310
Thr Ser Ala Ile Leu Ile Thr Pro Glu Gly Asp Asp Lys Pro Gly Ala
            350   355   360

gtc ggt aaa gtt gtt cca ttt ttt gaa gcg aag gtt gtg gat ctg gat   2358
Val Gly Lys Val Val Pro Phe Phe Glu Ala Lys Val Val Asp Leu Asp
            365   370   375

acc ggg aaa acg ctg ggc gtt aat caa aga ggc gaa ctg tgt gtg aga   2406
Thr Gly Lys Thr Leu Gly Val Asn Gln Arg Gly Glu Leu Cys Val Arg
            380   385   390

ggt cct atg att atg tcc ggt tat gta aac aat ccg gaa gcg acc aac   2454
Gly Pro Met Ile Met Ser Gly Tyr Val Asn Asn Pro Glu Ala Thr Asn
            395   400   405

gcc ttg att gac aag gat gga tgg cta cat tct gga gac ata gct tac   2502
Ala Leu Ile Asp Lys Asp Gly Trp Leu His Ser Gly Asp Ile Ala Tyr
410   415   420   425

tgg gac gaa gac gaa cac ttc ttc atc gtt gac cgc ctg aag tct ctg   2550
Trp Asp Glu Asp Glu His Phe Phe Ile Val Asp Arg Leu Lys Ser Leu
                430   435   440

att aag tac aaa ggc tat cag gtg gct ccc gct gaa ttg gaa tcc atc   2598
Ile Lys Tyr Lys Gly Tyr Gln Val Ala Pro Ala Glu Leu Glu Ser Ile
            445   450   455

ttg ctc caa cac ccc aac atc ttc gac gca ggt gtc gca ggt ctt ccc   2646
Leu Leu Gln His Pro Asn Ile Phe Asp Ala Gly Val Ala Gly Leu Pro
            460   465   470

gac gat gac gcc ggt gaa ctt ccc gcc gcc gtt gtt gtt ttg gag cac   2694
Asp Asp Asp Ala Gly Glu Leu Pro Ala Ala Val Val Val Leu Glu His
            475   480   485

gga aag acg atg acg gaa aaa gag atc gtg gat tac gtc gcc agt caa   2742
Gly Lys Thr Met Thr Glu Lys Glu Ile Val Asp Tyr Val Ala Ser Gln
490   495   500   505

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Val Thr Thr Ala Lys Lys Leu Arg Gly Gly Val Val Phe Val Asp Glu
            510                     515                 520

gta ccg aaa ggt ctt acc gga aaa ctc gac gca aga aaa atc aga gag        2838
Val Pro Lys Gly Leu Thr Gly Lys Leu Asp Ala Arg Lys Ile Arg Glu
            525                     530                 535

atc ctc ata aag gcc aag aag ggc gga aag atc gcc gtg taa taa            2883
Ile Leu Ile Lys Ala Lys Lys Gly Gly Lys Ile Ala Val
            540                     545                 550

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cccctccct attgccacgg cggaactcat cgccgcctgc cttgcccgct gctggacagg      3243

ggctcggctg ttgggcactg acaattccgt ggtgttgtcg gggaagctga cgtcctttcc     3303

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gggcaggaca gcaagggga ggattgggaa gacaatagca ggcatgctgg ggactcgagt      3663

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cgctttcttc ccttcctttc tcgccacgtt cgccggcttt ccccgtcaag ctctaaatcg     4203

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13

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aaaaaggaag agtatgagta ttcaacattt ccgtgtcgcc cttattccct tttttgcggc    4683

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cgtagttatc tacacgacgg ggagtcaggc aactatggat gaacgaaata gacagatcgc    5463

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cgtagaaaag atcaaaggat cttcttgaga tccttttttt ctgcgcgtaa tctgctgctt    5703

gcaaacaaaa aaaccaccgc taccagcggt ggtttgtttg ccggatcaag agctaccaac    5763

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<213> Artificial

<220>
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       plasmid backbone, with AAV2 internal terminal repeats that flank
       expression cassette; referred to as AAV2/5 CMV luciferase

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Leu Glu Asp Gly Thr Ala Gly Glu Gln Leu His Lys Ala Met Lys Arg
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Tyr Ala Leu Val Pro Gly Thr Ile Ala Phe Thr Asp Ala His Ile Glu
        35                  40                  45


Val Asp Ile Thr Tyr Ala Glu Tyr Phe Glu Met Ser Val Arg Leu Ala
    50                  55                  60


Glu Ala Met Lys Arg Tyr Gly Leu Asn Thr Asn His Arg Ile Val Val
65                  70                  75                  80


Cys Ser Glu Asn Ser Leu Gln Phe Phe Met Pro Val Leu Gly Ala Leu
                85                  90                  95


Phe Ile Gly Val Ala Val Ala Pro Ala Asn Asp Ile Tyr Asn Glu Arg
            100                 105                 110
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15

Glu Leu Leu Asn Ser Met Gly Ile Ser Gln Pro Thr Val Val Phe Val
    115   120   125

Ser Lys Lys Gly Leu Gln Lys Ile Leu Asn Val Gln Lys Lys Leu Pro
    130   135   140

Ile Ile Gln Lys Ile Ile Ile Met Asp Ser Lys Thr Asp Tyr Gln Gly
145   150   155   160

Phe Gln Ser Met Tyr Thr Phe Val Thr Ser His Leu Pro Pro Gly Phe
                165   170   175

Asn Glu Tyr Asp Phe Val Pro Glu Ser Phe Asp Arg Asp Lys Thr Ile
                180   185   190

Ala Leu Ile Met Asn Ser Ser Gly Ser Thr Gly Leu Pro Lys Gly Val
    195   200   205

Ala Leu Pro His Arg Thr Ala Cys Val Arg Phe Ser His Ala Arg Asp
    210   215   220

Pro Ile Phe Gly Asn Gln Ile Ile Pro Asp Thr Ala Ile Leu Ser Val
225   230   235   240

Val Pro Phe His His Gly Phe Gly Met Phe Thr Thr Leu Gly Tyr Leu
                245   250   255

Ile Cys Gly Phe Arg Val Val Leu Met Tyr Arg Phe Glu Glu Glu Leu
                260   265   270

Phe Leu Arg Ser Leu Gln Asp Tyr Lys Ile Gln Ser Ala Leu Leu Val
    275   280   285

Pro Thr Leu Phe Ser Phe Phe Ala Lys Ser Thr Leu Ile Asp Lys Tyr
    290   295   300

Asp Leu Ser Asn Leu His Glu Ile Ala Ser Gly Gly Ala Pro Leu Ser
305   310   315   320

Lys Glu Val Gly Glu Ala Val Ala Lys Arg Phe His Leu Pro Gly Ile
                325   330   335

16

Arg Gln Gly Tyr Gly Leu Thr Glu Thr Thr Ser Ala Ile Leu Ile Thr
            340   345   350

Pro Glu Gly Asp Asp Lys Pro Gly Ala Val Gly Lys Val Val Pro Phe
            355   360   365

Phe Glu Ala Lys Val Val Asp Leu Asp Thr Gly Lys Thr Leu Gly Val
            370   375   380

Asn Gln Arg Gly Glu Leu Cys Val Arg Gly Pro Met Ile Met Ser Gly
385   390   395   400

Tyr Val Asn Asn Pro Glu Ala Thr Asn Ala Leu Ile Asp Lys Asp Gly
                405   410   415

Trp Leu His Ser Gly Asp Ile Ala Tyr Trp Asp Glu Asp Glu His Phe
            420   425   430

Phe Ile Val Asp Arg Leu Lys Ser Leu Ile Lys Tyr Lys Gly Tyr Gln
            435   440   445

Val Ala Pro Ala Glu Leu Glu Ser Ile Leu Leu Gln His Pro Asn Ile
            450   455   460

Phe Asp Ala Gly Val Ala Gly Leu Pro Asp Asp Asp Ala Gly Glu Leu
465   470   475   480

Pro Ala Ala Val Val Val Leu Glu His Gly Lys Thr Met Thr Glu Lys
                485   490   495

Glu Ile Val Asp Tyr Val Ala Ser Gln Val Thr Thr Ala Lys Lys Leu
            500   505   510

Arg Gly Gly Val Val Phe Val Asp Glu Val Pro Lys Gly Leu Thr Gly
            515   520   525

Lys Leu Asp Ala Arg Lys Ile Arg Glu Ile Leu Ile Lys Ala Lys Lys
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Gly Gly Lys Ile Ala Val
545   550

17

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<213> Artificial

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      plasmid backbone, with AAV2 internal terminal repeats that flank
      expression cassette; referred to as AAV2/5 U6 lucRI-1a

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catcactagg ggttccttgt agttaatgat taacccgcca tgctacttat ctacgtagcc   420

atgctctagg aagatcggaa ttcgccctta agctagcccc cagtggaaag acgcgcaggc   480

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gcctatttcc catgattcct tcatatttgc atatacgata caaggctgtt agagagataa   600

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aataatttct tgggtagttt gcagttttaa aattatgttt taaaatggac tatcatatgc   720

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gagttaaggg cgaattcccg attaggatct tcctagagca tggctacgta gataagtagc   900

atggcgggtt aatcattaac tacaaggaac ccctagtgat ggagttggcc actccctctc   960

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18

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caactctttt  tccgaaggta  actggcttca  gcagagcgca  gataccaaat  actgtccttc  3000

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19

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gtcctgtcgg gtttcgccac ctctgacttg agcgtcgatt tttgtgatgc tcgtcagggg    3420

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ctgcccactt ggcagtacat caagtgtatc atatgccaag tacgccccct attgacgtca     720

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20

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gagctggttt agtgaaccgt cttacgctga gtacttcgat tcaagagatc gaagtactca     1080

gcgtaaggct agcacacaaa aaaccaacac acagatctaa tgaaaataaa gatcttttac     1140

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tctgcgcgct cgctcgctca ctgaggccgg gcgaccaaag gtcgcccgac gcccgggctt     1320

tgcccgggcg gcctcagtga gcgagcgagc gcgcagcctt aattaaccta attcactggc     1380

cgtcgtttta caacgtcgtg actgggaaaa ccctggcgtt acccaactta atcgccttgc     1440

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ccaacagttg cgcagcctga atggcgaatg ggacgcgccc tgtagcggcg cattaagcgc     1560

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caaccctatc tcggtctatt cttttgattt ataagggatt tttccgattt cggcctattg     1920

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tataatttca ggtggcatct ttcggggaaa tgtgcgcgga accccatttt gtttattttt     2040

ctaaatacat tcaaatatgt atccgctcat gagacaataa ccctgataaa tgcttcaata     2100

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ccttgagagt tttcgccccg aagaacgttt tccaatgatg agcacttta aagttctgct     2340

atgtggcgcg gtattatccc gtattgacgc cgggcaagag caactcggtc gccgcataca     2400

ctattctcag aatgacttgg ttgagtactc accagtcaca gaaaagcatc ttacggatgg     2460

catgacagta agagaattat gcagtgctgc cataaccatg agtgataaca ctgcggccaa     2520
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21

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cgagcgtgac accacgatgc ctgtagtaat ggtaacaacg ttgcgcaaac tattaactgg    2700

cgaactactt actctagctt cccggcaaca attaatagac tggatggagg cggataaagt    2760

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ccgtatcgta gttatctaca cgacggggag tcaggcaact atggatgaac gaaatagaca    2940

gatcgctgag ataggtgcct cactgattaa gcattggtaa ctgtcagacc aagtttactc    3000

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cctttttgat aatctcatga ccaaaatccc ttaacgtgag ttttcgttcc actgagcgtc    3120

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tctagtgtag ccgtagttag gccaccactt caagaactct gtagcaccgc ctacatacct    3360

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<210> 7
<211> 3923
<212> DNA
<213> Artificial

<220>
<223> sequence for recombinant adeno-associated viral vector, including

plasmid backbone, with AAV2 internal terminal repeats that flank
expression cassette; referred to as AAV2/5 U6/U6 lucRIU6-3

<400> 7

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tcactcatta ggcaccccag gctttacact ttatgcttcc ggctcgtatg ttgtgtggaa    180

ttgtgagcgg ataacaattt cacacaggaa acagctatga ccatgattac gccagattta    240

attaaggctg cgcgctcgct cgctcactga ggccgcccgg gcaaagcccg ggcgtcgggc    300

gacctttggt cgcccggcct cagtgagcga gcgagcgcgc agagagggag tggccaactc    360

catcactagg ggttccttgt agttaatgat taacccgcca tgctacttat ctacgtagcc    420

atgctctagg aagatcggaa ttcgcccTta agctagcccc cagtggaaag acgcgcaggc    480

aaaacgcacc acgtgacgga gcgtgaccgc gcgccgagcc caaggtcggg caggaagagg    540

gcctatttcc catgattcct tcatatttgc atatacgata caaggctgtt agagagataa    600

ttagaattaa tttgactgta aacacaaaga tattagtaca aaatacgtga cgtagaaagt    660

aataatttct tgggtagttt gcagttttaa aattatgttt taaaatggac tatcatatgc    720

ttaccgtaac ttgaaagtat ttcgatttct tggctttata tatcttgtgg aaaggacgaa    780

acacctttt cttacgctga gtacttcgat ttttggtgtt tcgtcctttc cacaagatat    840

ataaagccaa gaaatcgaaa tactttcaag ttacggtaag catatgatag tccatttttaa    900

aacataattt taaaactgca aactacccaa gaaattatta ctttctacgt cacgtatttt    960

gtactaatat ctttgtgttt acagtcaaat taattctaat tatctctcta acagccttgt   1020

atcgtatatg caaatatgaa ggaatcatgg gaaataggcc ctcttcctgc ccgaccttgg   1080

gctcggcgcg cggtcacgct ccgtcacgtg gtgcgttttg cctgcgcgtc tttccactgg   1140

ggctcgagtt aagggcgaat tcccgattag gatcttccta gagcatggct acgtagataa   1200

gtagcatggc gggttaatca ttaactacaa ggaacccta gtgatggagt tggccactcc   1260

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ctttgcccgg gcggcctcag tgagcgagcg agcgcgcagc cttaattaac ctaattcact   1380

ggccgtcgtt ttacaacgtc gtgactggga aaccctggc gttacccaac ttaatcgcct   1440

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ttcccaacag ttgcgcagcc tgaatggcga atgggacgcg ccctgtagcg cgcattaag   1560

cgcggcgggt gtggtggtta cgcgcagcgt gaccgctaca cttgccagcg ccctagcgcc   1620
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cccctttgacg ctggagttca cgttcctcaa tagtggactc ttgttccaaa ctggaacaac  1860

actcaaccct atctcggtct attcttttga tttataaggg attttttccga tttcggccta   1920

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gtttataatt tcaggtggca tctttcgggg aaatgtgcgc ggaaccccta tttgtttatt   2040

tttctaaata cattcaaata tgtatccgct catgagacaa taaccctgat aaatgcttca   2100

ataatattga aaaggaaga gtatgagtat tcaacatttc cgtgtcgccc ttattccctt    2160

ttttgcggca ttttgccttc ctgttttttgc tcacccagaa acgctggtga aagtaaaaga  2220

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gatccttgag agttttcgcc ccgaagaacg ttttccaatg atgagcactt ttaaagttct   2340

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tggagccggt gagcgtgggt ctcgcggtat cattgcagca ctggggccag atggtaagcc   2880

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ctcatatata ctttagattg atttaaaact tcatttttaa tttaaaagga tctaggtgaa   3060

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ctgctgcttg caaacaaaaa aaccaccgct accagcggtg gtttgtttgc cggatcaaga   3240

gctaccaact cttttttccga aggtaactgg cttcagcaga gcgcagatac caaatactgt   3300
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24

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ccttctagtg tagccgtagt taggccacca cttcaagaac tctgtagcac cgcctacata    3360

cctcgctctg ctaatcctgt taccagtggc tgctgccagt ggcgataagt cgtgtcttac    3420

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aggggggcgg agcctatgga aaaacgccag caacgcggcc tttttacggt tcctggcctt    3780

ttgctgcggt tttgctcaca tgttctttcc tgcgttatcc cctgattctg tggataaccg    3840

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<210> 8
<211> 3589
<212> DNA
<213> Artificial

<220>
<223> sequence for recombinant adeno-associated viral vector, including
       plasmid backbone, with AAV2 internal terminal repeats that flank
       expression cassette; referred to as AAV2/5 U6 lucRI-4(sense)

<400> 8
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catcactagg ggttccttgt agttaatgat taacccgcca tgctacttat ctacgtagcc    420

atgctctagg aagatcggaa ttcgccctta gctagcccc cagtggaaag acgcgcaggc     480

aaaacgcacc acgtgacgga gcgtgaccgc gcgccgagcc caaggtcggg caggaagagg    540

gcctatttcc catgattcct tcatatttgc atatacgata caaggctgtt agagagataa    600

ttagaattaa tttgactgta aacacaaaga tattagtaca aaatacgtga cgtagaaagt    660

aataatttct tgggtagttt gcagttttaa aattatgttt taaaatggac tatcatatgc    720
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cgaccaaagg tcgcccgacg cccgggcttt gcccgggcgg cctcagtgag cgagcgagcg   1020

cgcagcctta attaacctaa ttcactggcc gtcgttttac aacgtcgtga ctgggaaaac   1080

cctggcgtta cccaacttaa tcgccttgca gcacatcccc ctttcgccag ctggcgtaat   1140

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agtgctttac ggcacctcga ccccaaaaaa cttgattagg gtgatggttc acgtagtggg   1440

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ccaatgatga gcacttttaa agttctgcta tgtggcgcgg tattatcccg tattgacgcc   2040

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ataaccatga gtgataacac tgcggccaac ttacttctga caacgatcgg aggaccgaag   2220

gagctaaccg cttttttgca caacatgggg gatcatgtaa ctcgccttga tcgttgggaa   2280

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gtaacaacgt tgcgcaaact attaactggc gaactactta ctctagcttc ccggcaacaa   2400
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26

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caggcaacta tggatgaacg aaatagacag atcgctgaga taggtgcctc actgattaag      2640

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aagaactctg tagcaccgcc tacatacctc gctctgctaa tcctgttacc agtggctgct      3060

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cgcagccgaa cgaccgagcg cagcgagtca gtgagcgagg aagcggaag                  3589


<210>    9
<211>    3589
<212>    DNA
<213>    Artificial

<220>
<223>    sequence for recombinant adeno-associated viral vector, including
         plasmid backbone, with AAV2 internal terminal repeats that flank
         expression cassette; referred to as AAV2/5 U6 lucRI-4(antisense)

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tcactcatta ggcaccccag gctttacact ttatgcttcc ggctcgtatg ttgtgtggaa      180
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gcctatttcc catgattcct tcatatttgc atatacgata caaggctgtt agagagataa    600

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28

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ccagtcacag aaaagcatct tacggatggc atgacagtaa gagaattatg cagtgctgcc   2160

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      expression cassette; referred to as AAV2/2 U6 eGFPRI-1a

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31

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        expression cassette; referred to as AAV2/5 pol1 lucRI

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